GE Industrial Solutions

# Trip Unit Toolkit

Manage. Monitor. Test.



## Insights today. Performance tomorrow.

**Trip Unit Toolkit** is a powerful software package that enables users to manage, monitor and test parameters present in the GE range of EntelliGuard\*, PremEon\* and *micro*EntelliGuard\* trip units. Its intuitive interface provides simple, easy access to manage functionality from startup and commissioning to maintenance and testing directly on your personal computer.

The *free* Trip Unit Toolkit can be downloaded at **www.geindustrial.com/free**. In addition to English, language packs are available for French, Italian and Spanish. This Toolkit easily integrates with new or existing installations.





The intuitive software interface includes data such as metering values and timings for overload or ground fault protection.

## Manage

The Trip Unit Toolkit makes it easy and convenient to set parameters for overcurrent, alarms, I/O relays and ZSI. When connected, the values are read from the trip unit memory via the RS232, USB (located in front of the trip unit) or RS485 (located in the back).

Use the Protection Settings tab to modify and save values into the trip unit memory. If available, other settings such as the

protection relays, alarms, relay inputs/outputs, Reduced Energy Let Thru (RELT) and Zone Selective Interlocking (ZSI) may be read and saved in the same manner.

For added convenience, you can manage and edit trip settings offline or create an offline data file. This allows you to save your settings quickly, and easily copy and paste to multiple trip units in your installation.

rence	Protection Settings Mone	test			Cold Gaantin I Constants		
frip U	nit (Star)	Anne 1	Real Realition Apparent	Phaner	Event Log N Our D SeverAs H		
	Normal Votage 489 V	Pated Amparage 3840 A	WV Durgut \$843.2		Phase C 6108 A		
mase L1)	2111	21614	56 2 1/1/		Instantaneous Trip Phase 8 7680 A		
	2110	2101A	J0.2 KVV	12 %	Shunt 2 Trip		
hace	0				Long Time Trip		
(L2)	211V	4176A	101.2 kW		Instantaneous Trip Phase 8 7680 A Shunt 1 Trip		
	-		1	11 %			
hase	c				None Shunt 2 Trip		
L3)	210V	6225A	157.2 kW		None		
	-			12 %	Phase C 2232 A		
tatus					Breaker Open Time Log 🛄		
reaker	RELT ZSI IN ZSI OF	UT Rating Voltage	Frequency Energy total	Trip total Power Direction	Waveform Antika		
OPEN	OFF. OFF. OFF	3840 A 480 V	50 Hz 115 kWH C	19 Line-stoad	Ph Lord		
					y y sensor		
Over	Surrent	Innets	Relays (Outnuts)	Protective Relays	2 Ora		
LT:	ST: IOC: OF Sum: OF CT:	1 1 1 1	1 2 1 4	UV OV CU VU PR	The state of a state of the sta		
08	ON ON ON DER	OFF OFF MAA INVA	OFF OFF NUA N/A	on on on on			
					1		



Troubleshooting or simple performance checks are easy with the Trip Unit Toolkit. The Monitor tab displays waveforms, event logs and real-time data including metering, phasor diagrams and circuit breaker status.

The software also tracks and provides critical predictive analytics such as contact wear and mechanism timing data, and compares the most recent event to the original factory performance testing.

Trip Unit Toolkit			0	rvice: Prostand	Cate. Cf Raing	250 🕜 💽	NISH • 1 0
Device Protection Settings Monitor	Test						oute simule a Conno
Tester Name 30 chars may			Broaker Posi	tion Open	Test Log		X Cheer
Separate Execution Trip Carve Validation Test Settings Over Current OFF ON Ground Fo	ault DEF ON	Protection Picks Long Time 10 A Short Time (11.9 c 393 A Ground Fault (0.23 of 30 A	p Delay C 18 sec n) 000 sec htt: 0.340 sec	Iternal Iternal OH	Protections Tester Phase Al Phase B Phase D Neutral Current Grownt Current	30 A (14.4 abs) 3 (14.5 abs) 3 (14.5 abs) 3 (14.3 abs) 3 (10.3 abs) 3 (10.0 abs) 0 (10.0 abs) 0 (10.0 abs) 0	and Short Time 600 A 625 A 575 A 4 A
Phase A (L1)	Contra,		<b>144 007</b>	3500 A	Trip treater: Min Trip Time: Max Trip Time:	No 20.00ms 65.00ms	
Phase B (L2)			P 145 000	3625 A	Add Fest Notes Fe	47.00ms	
Phase C (L3)				575 A 0 A	Des 2010 10:19	Pickup De 30A 18 114 (Pr) 004 793A	lay Curve/Slope sec Shored Fac Off
errentil Datrens	ij (Es taul) (Es Sur	e] 🛓 Add To Queee ] 🗶 Ci	) i pis ma Quee <b>4 Stat</b>	1.0	Ground Fault ( Protections Tester Praise A) Praise B) Praise B) Praise C) Neutral Convert Ground Converts Trip Fenalter; Min Trip Tenater; Max Trip Tenater; Max Trip Tenater; Add Test Norse In Add Test Norse In	0.22 (0.27) (0.24 30.A E Long Time (144) (0.0) 3 (145) (0.0) 3	State Off and Short Time NOU A NOU A NOU NOU NOU A NOU A NOU NOU NOU NOU NOU A NOU NOU NOU NOU A NOU NOU NOU NOU NOU NOU NOU NOU NOU NOU
Phase A Phase B Phase C Nes (144.85%) (145.65%) (0.0.85%) 0.0	utral Current Groun	d Current Feature T dot 0.7 Long Time and	o Test Trip short line	Breeker? M	in Trip Time Max 20.00mi	Trip Time	Observed Trip Tim
1 (1445-bit) (145-bit) (143-bit) (143-bit) (143-bit)	0.81 A 0 inde 0.0	dct 8 A Long Time and	Short Time	No	20.06ms	65.00ms	AL XIVE
1 1 1000A 2025A 3125A	De state (0 A	oct CA Long Time and	Short Time	100	20 COM	65.00m	40.00%6



#### Test

Using the Trip Unit Toolkit, you can digitally test, record and share results for circuit breaker diagnostics. The Test tab provides the flexibility to set circuit breaker specifications for overcurrent and ground fault, and then test it in either a trip or no trip mode for curve validation.

The Test tab also provides the ability to create a sequence so your operators can run multiple tests remotely– safely removed from the equipment. For added convenience, the software generates a downloadable summary test log for your reference.



#### Compatibility

#### **Communication - Plug & Play**

- · Auto detects the connected communication ports
- Serial or Ethernet
- One trip unit at a time (change Modbus/Slave ID to connect to the trip unit)
- 4 Main Tabs: Device, Protection Settings, Monitor, Test

#### Supports Full GE Industrial Circuit Breaker Portfolio

- EntelliGuard and Power Break\* II Circuit Breakers, with EntelliGuard Trip Unit – connect with GTUTK20 Test Kit
- **GuardEon\*** Circuit Breakers, with PremEon S or G Trip Unit- connect with micro USB
- **Record Plus\*** Circuit Breakers with PremEon S Trip Unit – connect with micro USB
- **Spectra\*** Circuit Breakers, with *micro*EntelliGuard Trip Unit – connect with GTUTK20 Test Kit



The trip unit requires an external power source for toolkit operation and has been designed for a Windows<sup>®</sup> 7 or higher operating system.

- For PremEon S and G trip units the power supply from a connected laptop via a standard USB to micro USB cable will suffice.
- For EntelliGuard TU and *micro*EntelliGuard trip units a GTUTK20 test kit is required for laptop integration. The test kit uses a serial interface for communications and power.

(Note: Computers without a serial communications port require a USB to RS232 adapter cable.)

### **Available Functionalities**

		Trip Units						
	Function	EntelliGuard <sup>1</sup>	<i>micro</i> EntelliGuard <sup>2</sup>	PremEon S (E frame)	PremEon S (G & K frame)	PremEon G (K frame)		
	Catalog Number (Read Only)	√ 4	$\checkmark$		$\checkmark$	$\checkmark$		
	Device Name Edit and Save	√ 4	$\checkmark$			$\checkmark$		
	Display Trip Time Curve	√	$\checkmark$	$\checkmark$	√	$\checkmark$		
	Earth Fault Protection Settings	√						
	Frequency Change	√	$\checkmark$			$\checkmark$		
	Offline Protection Setting	√	$\checkmark$			$\checkmark$		
Manage	Read/Write Settings	√	$\checkmark$	Read Only	Read Only	$\checkmark$		
_	Save as PDF	√	$\checkmark$	$\checkmark$	√	$\checkmark$		
	Trip Unit Firmware Update Feature	$\sqrt{3}$	$\checkmark$	$\checkmark$	√	$\checkmark$		
	Trip Unit Language Pack Upload	√ 4						
	Test Log (Save as PDF)	√ 4	$\checkmark$		$\checkmark$	$\checkmark$		
	Protections LT, ST, I, GF (SUM-CT)	√	$\checkmark$	Read Only	Read Only	$\checkmark$		
	Alarms	√	$\checkmark$			$\checkmark$		
	Breaker Open Time Log	√ 4				$\checkmark$		
	Events Logging	√	$\checkmark$	V	√	$\checkmark$		
	Monitor Metering & Status Information	√	$\checkmark$	√ 5	√	$\checkmark$		
Monitor	Phasor Diagram	√	$\checkmark$			$\checkmark$		
	Waveform Capture	√	$\checkmark$		$\checkmark$	$\checkmark$		
	Trip Counters	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$		
	Digital Current Injection Testing	√ 4	$\checkmark$		$\checkmark$	$\checkmark$		
	Overcurrent Testing (LT, ST)	√	$\checkmark$		$\checkmark$	$\checkmark$		
	Ground Fault Testing (GF)	√	$\checkmark$		$\checkmark$	$\checkmark$		
Test	RELT I/Os (Input Display, Forcing Out)	√	√			$\checkmark$		
	Trip Curve Validation	٧	$\checkmark$		√	$\checkmark$		

<sup>1</sup>Not all functionality applies to Power Break II circuit breakers.

<sup>2</sup> Supported in latest version of MET.

<sup>3</sup> Supported in Firmware version 08.00.20 or later.

<sup>4</sup> Supported in Firmware version 08.00.26 or later.

<sup>5</sup> Only status information is available.

### How to order: The free Trip Unit Toolkit can be downloaded at geindustrial.com/free

#### Home Products Products Conversion/Rise and Trip Units Trip Units Trip Unit Toolkit Trip Unit Toolkit Trip Unit Toolkit Image: Monitor Test: Trip Units Image: Monitor Test: Trip Units

For Installation Instructions - click here. For Language packs - click here.



\*Indicates a trademark of the General Electric Company and/or its affiliates. All other brands or names are property of their respective holders. Information provided is subject to change without notice. Please verify all details with GE. All values are design or typical values when measured under laboratory conditions, and GE makes no warranty or guarantee, express or implied, that such performance will be obtained under end-use conditions. ©2016, General Electric Company and/or its affiliates. All rights reserved.

5.16 DEA-596A

GE

Industrial Solutions 41 Woodford Avenue Plainville, CT 06062 1-800-431-7867 www.geindustrial.com